

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Richmond Division**

**THE TRUSTEES OF COLUMBIA
UNIVERSITY IN THE CITY OF
NEW YORK,**

Plaintiff,

v.

**Civil Action No. 3:13cv808
UNDER SEAL**

**GEN DIGITAL INC.,
f/k/a SYMANTEC CORPORATION,
f/k/a NORTONLIFELOCK, INC.,**

Defendant.

MEMORANDUM OPINION

This matter comes before the Court on Defendant NortonLifeLock Inc's ('Norton')¹ Motion for Judgment as a Matter of Law Under Federal Rule of Civil Procedure 50(a) (the "Rule 50(a) Motion") (ECF No. 1191) and Norton's Renewed Motion for Judgment as a Matter of Law (the "Motion for Judgment" or "RJMOL"), filed pursuant to Rule 50(b) of the Federal Rules of Civil Procedure (ECF No. 1253). Plaintiff, the Trustees of Columbia University in the City of New York ("Columbia"), filed its Opposition (ECF No. 1283) to the Motion for Judgment, and Norton submitted its Reply (ECF No. 1287). The matter is ripe for adjudication. The Court dispenses with oral argument because the materials before it adequately present the facts and legal contentions, and argument would not aid the decisional process. For the reasons that

¹ The Court previously issued a Notice explaining that it will refer to Defendant as "Norton" on a default basis, and why. (ECF No. 1328.)

follow, the Court will DENY AS MOOT the Rule 50(a) Motion² and DENY Norton's Motion for Judgment.

I. Introduction

This case has been pending for nearly ten years. It was litigated in this district court in 2014, after which each party took a different path to appeal the Court's decision to the United States Court of Appeals for the Federal Circuit. On remand, a 15-day jury trial eventually occurred. The jury awarded \$185,112,727.00 in damages to compensate Columbia University for Norton's infringement of two patents developed by Professors Salvatore Stolfo and Angelos Keromytis at Columbia University. (ECF No. 1206, at 4.)

The \$185,112,727.00 damages verdict included \$94,037,265.00 in royalties for sales to non-United States customers, and \$91,075,462.00 in royalties "for sales to U.S. customers." (ECF No. 1206, at 5 (alterations omitted).)³

² Norton filed its original Rule 50(a) Motion for Judgment as a Matter of Law on April 26, 2022, before the case was submitted to the jury. (ECF No. 1191.) The Court reserved ruling on the Rule 50(a) Motion at trial and submitted the case to the jury. (ECF No. 1219, at 115; Apr. 26 Trial Tr. 2633:8–9.) "If the court does not grant a motion for judgment as a matter of law made under Rule 50(a), the court is considered to have submitted the action to the jury subject to the court's later deciding the legal questions raised by the motion." Fed. R. Civ. P. 50(b). To raise the issue following a jury verdict, the moving party must renew its motion under Rule 50(b) of the Federal Rules of Civil Procedures. Fed. R. Civ. P. 50(b). Because Norton has renewed its Motion for Judgment, the Court will deny the Rule 50(a) motion as moot and address the renewed Motion for Judgment on the merits.

³ A third patent developed by the two Columbia professors, Patent No. 8,549,643 (the "'643 Patent"), spawned correction of inventorship and fraudulent concealment claims. The '643 Patent related to Decoy Technology. The jury concluded that, along with a Norton employee, Professors Stolfo and Keromytis were joint inventors of the third patent. The jury did not find that the two professors were the sole inventors of that patent, or that Norton committed fraudulent concealment regarding this last patent.

Norton did not renew its JMOL as to this patent. With the parties' agreement, the Court ordered the Director of the United States Patent Office to issue a Certificate of Correction that identified Professor Stolfo and Professor Keromytis as co-inventors of the '643 Patent, along with Darren Shou, a Norton employee. (ECF No. 1270.)

Pursuant to Federal Rule of Civil Procedure 50(b), Norton filed the renewed Motion for Judgment, arguing that this Court should grant judgment as a matter of law in Norton's favor, on Columbia's direct, induced, contributory, and willful infringement claims, as well as Columbia's claim for damages stemming from Norton's infringement of the Professors' two patents. (ECF Nos. 1253, 1254.)

Norton's request for judgment as a matter of law fails for multiple reasons. As an initial matter, Norton strings together an alternative set of facts alongside snippets of evidence in an attempt to invert nearly every decision made by the Court or by the jury. Norton's RJMOL rehashes arguments previously made, often citing and incorporating its prior briefing on *Daubert* motions, motions *in limine*, or other pretrial issues. Norton even appears to present new claim construction arguments post-trial. An RJMOL cannot support such actions. *See, e.g., Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1320 (Fed. Cir. 2003) (“[I]t is improper for the district court to adopt a new or more detailed claim construction in connections with [a] JMOL motion.”). The Court has already considered and rejected – often repeatedly – the same arguments raised in the RJMOL prior to and during trial, and Norton offers nothing further to suggest a different outcome post-trial. This alone supports a denial of the Motion for Judgment.

Norton's RJMOL also presents a challenge to every determination of infringement made by the jury. In doing so, Norton reiterates its theory of non-infringement, rejected by the jury. Many of Norton's arguments improperly ask the Court to reweigh the evidence or circumvent the jury's witness credibility determinations, even where sufficient evidence supports the jury's findings. This is not allowed. “A renewed motion for a judgment as a matter of law is ‘not an occasion for the Court to usurp the jury's authority to weigh the evidence and gauge the credibility of witnesses.’” *DNT v. Sprint Spectrum, LP*, 750 F. Supp. 2d. 621, 628 (E.D. Va.

1998) (citation and quotation omitted); *see also Taylor v. Home Ins. Co.*, 777 F.2d 849, 854 (4th Cir. 1985).

And, as to damages, Norton challenges the jury's award of sales outside the United States. The Court has found against Norton on that issue repeatedly, and nothing presented in the RJMOL alters that finding. The Court will not usurp the jury's decision to award those damages.

In sum, Norton fails to satisfy the demanding standard for an RJMOL. The Court finds that, “viewing the evidence in a light most favorable” to Columbia, and “drawing every legitimate inference in” Columbia's favor, “the only conclusion that a reasonable jury could have reached is one” in favor of Columbia. *Pitrolo v. County of Buncombe*, 407 F. App'x 657, 659 (4th Cir. 2011) (quoting *Int'l Ground Transp. v. Mayor & City Council of Ocean City*, 475 F.3d 214, 218–19 (4th Cir. 2007)).

For these reasons and those that follow, the Court will deny Norton's Renewed Motion for a Judgment as a Matter of Law.

II. Standard of Review

Federal Rule of Civil Procedure 50 provides that “[i]f a party has been fully heard on an issue during a jury trial and the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue, the court may” grant a motion for judgment as a matter of law against that party. Fed. R. Civ. P. 50(a)(1). Although Rule 50(a) states that “[a] motion for judgment as a matter of law [must] be made . . . before the case is submitted to the jury,” Rule 50(b) declares that if the court does not grant the motion during the trial, “the movant may file a renewed motion for judgment as a matter of law” after the jury returns a verdict. Fed. R. Civ. P. 50(b).

“On a renewed motion for judgment as a matter of law [filed pursuant to Rule 50(b)], a court must affirm [the jury’s] verdict ‘[i]f, viewing the facts in the light most favorable to the non-moving party, there is sufficient evidence for a reasonable jury to have found in the non-moving party’s favor.’” *Sony Music Ent. v. Cox Commc’ns, Inc.*, 464 F. Supp. 3d 795, 808 (E.D. Va. 2020) (quoting *First Union Commercial Corp. v. GATX Capital Corp.*, 411 F.3d 551, 556 (4th Cir. 2005)). Critically, a court ruling on a motion for judgment as a matter of law “must not weigh evidence, determine witness credibility ‘or substitute [] judgment of the facts for that of the jury.’” *SEC v. Clark*, 60 F.4th 807, 812 (4th Cir. 2023) (quoting *Lust v. Clark Equip. Co., Inc.*, 792 F.2d 436, 438 (4th Cir. 1986)). Thus, the moving party “bears a ‘heavy burden’ in establishing that the evidence is insufficient to uphold the jury’s verdict.” *Thompson v. Direct Impact Co.*, 63 F. Supp. 2d 721, 723 (E.D. Va. 1998) (quoting *Price v. City of Charlotte*, 93 F.3d 1241, 1249 (4th Cir. 1996)); *see also Pitrolo*, 407 F. App’x at 659 (stating that “[i]f reasonable minds could differ, [the court] must affirm the jury’s verdict”).

Indeed, after a jury’s verdict, a “court may grant a Rule 50(b) motion . . . only if, ‘viewing the evidence in a light most favorable to the non-moving party . . . and drawing every legitimate inference in that party’s favor, the only conclusion a reasonable jury could have reached is one in favor of the moving party.’” *Pitrolo*, 407 F. App’x at 659 (quoting *Int’l Ground*, 475 F.3d at 218–19); *see also Liberty Mut. Fire Ins. Co. v. JT Walker Indus., Inc.*, 554 F. App’x 176, 185 (4th Cir. 2014) (declaring that a “court may grant [a motion for judgment as a matter of law only] if the evidence could not provide a legally sufficient basis for a reasonable jury to find for the non[-]moving party”). While a court should give credence to uncontradicted and unimpeached evidence that favors the non-moving party, “[a] renewed motion for a judgment as a matter of law is ‘not an occasion for the Court to usurp the jury’s authority to

weigh the evidence and gauge the credibility of witnesses.” *DNT v. Sprint Spectrum, LP*, 750 F. Supp. 2d. 621, 628 (E.D. Va. 1998) (citation and quotation omitted); *see also Taylor v. Home Ins. Co.* 777 F.2d 849, 854 (4th Cir. 1985); *Afilias PLC v. Architelos, Inc.*, Case No. 1:15-cv-14, 2016 WL 1245006, at *4 (E.D. Va. Mar. 23, 2016) (stating that in ruling on a Rule 50(b) motion, the court “should give credence to the evidence favoring the nonmovant as well as that evidence supporting the moving party that is uncontradicted and unimpeached, at least to the extent that that evidence comes from disinterested witnesses.”) (internal quotation marks omitted) (quoting *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150–51 (2000)). That is, the court may only grant the motion if “the only conclusion a reasonable trier of fact could draw from the evidence is in favor of the moving party.” *Sony Music Ent.*, 464 F. Supp. 3d at 808 (quoting *BMG Rights Mgmt. (US) LLC v. Cox Commc’ns, Inc.*, 199 F. Supp. 3d 958, 969 (E.D. Va. 2016), *aff’d in part, rev’d in part*, 881 F.3d 293 (4th Cir. 2018)). *See also Mathis v. Terra Renewal Servs., Inc.*, 69 F.4th 236, 242 (4th Cir. 2023) (describing the “operative question” for a Rule 50 motion as “whether the evidence compels ‘but one reasonable conclusion as to the proper judgment’”) (quoting *Price*, 93 F.3d at 1249).

“Although the court must accord the utmost respect to jury verdicts, it must reverse a verdict if the evidence cannot support it or if the nonmoving party has failed to make a showing on an essential element of his case with respect to which he had the burden of proof.” *Afilias PLC*, 2016 WL 1245006, at *4 (internal quotation marks omitted) (quoting *Price*, 93 F.3d at 1249–50). “[T]o defeat the motion for judgment as a matter of law, the nonmovant must present more than a scintilla of evidence to support its claim.” *Clark*, 60 F.4th at 812.

III. Factual and Procedural Background

A. First Proceedings in the District Court

Columbia began this patent infringement and related claims litigation against Norton nearly ten years ago. In 2013, Columbia challenged six patents owned by Norton.⁶ Norton answered the material allegations of the claims in Columbia's First Amended Complaint and asserted, among other things, affirmative defenses of noninfringement, invalidity, and unenforceability of the Asserted Patents. (ECF No. 20.)

The Court issued a Claim Construction finding noninfringement as to all challenged patents that included construction of to three claims within the '115 and '322 patents: "Anomalous," "Emulator," and "Application Community." (ECF No. 123).⁷ As described in detail below, this was reversed. On remand, the parties placed four representative claims from the '115 and '322 Patents before the jury for the trial on infringement. A more detailed

⁶ Columbia originally asserted that Norton infringed upon six of its patents. But subsequent litigation significantly narrowed this litigation to two patents—United States Patent Nos. 8,074,115 (the "'115 Patent") and 8,601,322 (the "'322 Patent") (collectively, the "Asserted Patents"). The '115 and '322 Patents "share a specification and relate to detecting anomalous program executions." *Trs. of Columbia Univ. in New York v. Symantec Corp.*, 811 F.3d 1359, 1362 (Fed. Cir. 2016).

The Court provided an in-depth discussion of the procedural history in its prior Memorandum Opinions—the *Inter Partes* Review Opinion, (ECF No. 251); the Markman Opinion, (ECF No. 253); the Court's opinion addressing Norton's Rule 12(c) Motion, (ECF No. 288); and, the Court's opinion regarding Norton's Motion for Partial Summary Judgment, (ECF No. 689; ECF No. 684 (sealed))—and incorporates those descriptions here. In order to clarify its findings here, the Court will nonetheless speak to those decisions as part of the procedural history.

⁷ In November of 2014, given the claim construction order issued by the Court that found non-infringement on Columbia's claims, the parties filed a stipulation and joint motion for entry of a final judgment of non-infringement. (ECF Nos. 147, 148.) The District Court entered final judgment of non-infringement on Columbia's patent infringement claims pursuant to Rule 54(b) of the Federal Rules of Civil Procedure so Columbia could immediately appeal the Court's claim construction rulings. (ECF No. 151.) The Court's order granting the motion for entry of final judgment also stayed the Decoy Claims, the '643 Patent. (ECF No. 150.)

discussion follows, but the Court notes that two Patent claims were presented to the jury for a determination of infringement: the '115 Patent and the '322 Patent.

1. Summary of What the Patents Do

The patents describe malware detectors. The two patents share a “common specification,” which states that they contain “[m]ethods, [m]edia, and [s]ystems for [d]etecting [a]nomalous [p]rogram [e]xecutions.” (ECF No. 264, at 8; ECF No. 825-3, at 16; ECF No. 825-4, at 18.)

The core of Columbia’s infringement challenge centers around Norton’s SONAR⁶ malware detection engine, because Norton incorporates SONAR/BASH into the fourteen Norton security software products before the Court (the “Accused Products”). SONAR is the feature in Norton products containing the technology that Columbia asserts infringed its patents.

SONAR consists of two components: The first is “BPE,” “behavioral policy enforcement,” a set of “behavioral signatures,” or known threats. (ECF No. 737, at 3 n.3 (citations omitted)). The second is “BASH,”⁷ the component of SONAR “accused of infringement and focused upon in this litigation.” (ECF No. 737, at 3 n.3 (citation omitted) (sealed).) It uses “machine-learning techniques to identify suspicious behavior in programs, and [it] supplies information . . . used by [Norton’s] file-based and reputation-based systems,” which essentially means that it looks for program behaviors that are trying to accomplish a malicious task. (ECF No. 737, at 3 n.3 (citation omitted)(sealed).) Once an anomalous, possibly malicious, program behavior is identified, the information is shared with other users, the

⁶ “SONAR” is the acronym for Symantec Online Network Advanced Response.

⁷ “BASH” is the acronym for Behavioral Analysis and System Heuristics, which detects unknown threats.

“application community,” which are the members of a community running the same program or a selected portion of a program. “‘SONAR/BASH’ refers to the BASH component of SONAR.” (ECF No. 737, at 3 n.3 (citation omitted) (sealed).)⁸

The extensive litigation that preceded the jury trial will be discussed in depth below. Before doing so, the four claims the jury tried are discussed below.

2. The Four Claims Tried to the Jury

Just before trial, Columbia filed a notice stating that, in the interest of efficiency, it would present its infringement challenge as to a representative four claims in part because “each party’s experts agree that damages are the same regardless of the claims infringed.” (ECF No. 745, at 1.) As a result, at trial, Columbia presented its patent infringement evidence as to: (i) claims 2, 11, and 27 of the ’322 Patent and, (ii) claim 2 of the ’115 Patent. (ECF No. 745, at 1.)

The ’322 Patent is a “[c]ontinuation of the [’]115 Patent.” (ECF No. 825-4, at 4.)⁹ Columbia asserted that the

inventions of the [’]115 and [’]322 [P]atents share several common features including:

(1) running at least a part of the program being monitored for malware in an “emulator”; (2) comparing one or more of the function calls made by the program in the emulator to a “model of function calls”; (3) identifying ‘anomalous’ function calls based on comparison with the model; and (4) notifying an “application community” of the anomalous function call.

(See ECF No. 825-4, at 18, 20.) Claim 2 of the ’322 Patent speaks to that process.

⁸ BASH works with BPE, which detects known threats, within SONAR.

⁹ As noted above, the two patents share a “common specification,” which states that they contain “[m]ethods, media, and systems for detecting anomalous program executions.” (ECF No. 264, at 8; ECF No. 825-3, at 16; ECF No. 825-4, at 18.)

Claim 2 of the '322 patent reads:

2. A method for detecting anomalous program executions comprising: executing at least a portion of a program in an emulator; comparing a function call made in the emulator to a model of function calls for the at least a portion of the program, wherein the model is a combined model created from at least two models created using different computers; and identifying the function call as anomalous based on the comparison.

(ECF No. 825-4, at p. 27.)

Claim 11 of the '322 Patent constitutes “[a] non-transitory computer-readable medium containing computer-executable instructions that, when executed by a processor, cause the processor to perform a method for detecting anomalous program executors, comprising” the same method from claim 2. (ECF No. 825-4, at 28.)

Claim 27 of the '322 Patent¹⁰ sets forth the same method from claim 2 and is described as a “system for detecting anomalous program executions.” (ECF No. 825-4, at 28.)

Claim 2 of the '115 Patent,¹¹ which preceded the '322 Patent, includes a similar method. (See ECF No. 825-3, at 25.) Claim 1 of '115 patent, to whose method Claim 2 refers, reads:

¹⁰ **Claim 27 of the '322 patent reads:**

27. A system for detecting anomalous program executions comprising: a processor that:

executes at least a portion of a program in an emulator; compares a function call made in the emulator to a model of function calls for the at least a portion of the program, wherein the model is a combined model created from at least two models created using different computers; and identifies the function call as anomalous based on the comparison.

(ECF No. 825-4, at p. 28.)

¹¹ **Claim 2 of the '115 patent reads:**

2. The method of claim 1, further comprising creating a combined model from at least two models created using different computers. (ECF No. 825-3, at 26.)

1. A system for detecting anomalous program executions comprising: executing at least a part of a program in an emulator; comparing a function call made in the emulator to a model of function calls for the at least a portion of the program; identifying the function call as anomalous based on the comparison; and upon identifying the anomalous function call, notifying an application community that includes a plurality of computers of the anomalous function call.

(ECF No. 825-3, at 26.)

B. Appeals

With that background established, the Court discusses how those claims came before the jury. Initially, the appellate decisions, and this Court decisions that followed, construed claims that identified limitations on the Patents.

Columbia appealed the stipulated judgment to the United States Court of Appeals for the Federal Circuit challenging the District Court’s claim construction decisions. On February 2, 2016, the Federal Circuit issued a published opinion affirming the stipulated judgment on the ’544/’907 Patents and the ’084/’306 Patents. However, the Federal Circuit reversed and vacated the stipulated judgment of non-infringement of the asserted claims of the ’115 and ’322 Patents because “the district court incorrectly construed the term ‘anomalous’ in the ’115 and ’322 patent claims by requiring the model of normal computer usage be built only with ‘typical, attack free data.’” *Columbia v. Symantec*, 811 F.3d at 1362. The Federal Circuit ruled that “[t]he claims themselves show that the model can be built with both attack-free and attack data.” *Columbia v. Symantec*, 811 F.3d at 1370. Based on the erred claim construction of “anomalous,” the Federal Circuit vacated “the stipulated judgment as to **all** claims of the ’115 and ’322 patents and remanded for further proceedings consistent with this opinion.” *Columbia v. Symantec*, 811 F.3d at 1371 (emphasis added).

On a separate track, Norton initiated an *inter partes* review (“IPR”) proceeding with the Patent Trial and Appeal Board (“PTAB”) regarding certain claims of the ’115 and ’322 Patents.

Despite having dozens of grounds of invalidity before the District Court as to both Patents, Norton plucked only a few of those grounds to assert in its petition for IPR. Norton sought only three grounds of invalidity as to the '115 Patent, and just two grounds of invalidity for the '322 Patent before the PTAB. The PTAB conducted an oral hearing on the IPR petition and, in 2016, issued Final Written Decisions concluding that, with respect to each of the '115 and '322 Patents, certain claims *were* shown to be unpatentable, but importantly, that certain other claims *were not* shown to be unpatentable.¹²

Columbia and Norton each appealed and cross-appealed the PTAB's decisions in the '115 and '322 IPR.¹³ The Federal Circuit consolidated the appeals into Case No. 16-2551 and issued a judgment affirming the PTAB decisions in their entirety on March 13, 2018. *The Trustees of Columbia Univ. in the City of New York v. Symantec Corp.*, 714 F. App'x 1021, 1022 (Fed. Cir. 2018) (unpublished). The Federal Circuit's formal mandate issued on May 18, 2018.

As a result of these two appeal decisions, the revived claims remanded to the District Court. Of note, both the PTAB and the direct Federal Circuit appeal decisions found that the

¹² The PTAB instituted Norton's IPR on claims 1-42 of the '115 Patent and claims 1-27 of the '322 Patent. As to the '115 Patent, on June 30, 2016, the PTAB issued a Final Written Decision that Norton had not demonstrated that claims 2, 9, 10, 12, 19, 20, 23, 30, 31, 33, 40, and 41 of the '115 Patent are unpatentable. In contrast, the PTAB held that Norton had met its burden as to claims 1, 3-8, 11, 13-18, 21, 22, 24-29, 32, 34-39, and 42 of the '115 Patent, and held those claims unpatentable. (*See* ECF 199-20.)

That same day, the PTAB issued a second Final Written Decision as to the '322 Patent. The PTAB ruled that Norton had not shown that claims 2, 8, 11, 17, 25, and 27 of the '322 Patent were unpatentable. In contrast, the PTAB held that Norton had met its burden as to claims 1, 3-7, 9, 10, 12-16, 18-24, and 26 of the '322 Patent, and held those claims unpatentable.

¹³ Neither appeal concerned the '643 Patent because in 2014 this Court stayed the case as to Columbia's challenges to the '643 Patent prior to entering partial final judgment.

District Court erred when it found that the model built from “anomalous” data was built with only attack-free data.

C. Post-Remand Litigation in the District Court

Based on the mandates, several claims within the ’115 and ’322 Patents remained subject to challenge.

1. Substantive Motions Heard in the District Court

On remand, prodigious and, not infrequently recurrent, motions practice by the parties commenced. The Court decided a series of substantive legal questions at the urging of the parties followed by a series of evidentiary motions that often involved repetitive arguments.

The Court pauses to observe that this case was beset with challenges, and sometimes re-challenges, of settled issues—an unwise misuse of litigative efforts. An early example is the repeated challenge to the definition of “anomalous,” and the “model” created from the gathering data needed to make the model, discussed above. A second example is the exclusion of Prior Art, which was addressed repeatedly in opinions, by overruling objections, and by denying motions to reconsider. (ECF Nos. 251, 907 (sealed), 912 (sealed), 945.) A third and especially egregious motions practice undertaken by Norton is its handling of the testimony of Dr. Marc Dacier, which is discussed at length in the Court’s Memorandum Opinion on Columbia’s Motion for an Order to Show Cause. (ECF No. 1331.) Finally, the Court has before it an argument against damages from foreign sales that it has spoken to more than once. A least this issue, unlike others, involves subject matter that few courts have addressed. Even as to arguments raised about these sales for a second or third time, however, Norton presents no arguments or evidence that prevents this Court from finding that significant evidence at trial was adduced to allow a reasonable juror to find in favor of Columbia.

The Court raises this pattern because the Motion for Judgment before the Court does the same thing: it offers theories of non-infringement or lack of damages already (and sometimes repeatedly) rejected by the Court and, more importantly, by the jury that heard this case.¹⁴ A difference is that it presents new arguments as well. Even so, the Motion for Judgment does not even remotely spur the Court to change its findings in its previous opinions, evidentiary rulings, or rulings on jury instructions.

a. Columbia’s Partial Motion for Summary Judgment Seeking Statutory Estoppel Against Norton for Invalidity Claims Norton Did Not Raise Before the PTAB

Columbia first sought partial summary judgment asking the Court to find that Norton was estopped under 35 U.S.C. § 315(e)(2) from asserting the dozens of grounds of invalidity previously raised in invalidity contentions but not brought before the PTAB. In its *Inter Partes Review* Opinion, the Court granted the motion. (See ECF No. 251.)

This had the significant effect of, among other things, precluding Norton from relying on prior art invalidity arguments that it did not raise before the PTAB. (ECF No. 251, 252).

b. Norton’s Motion for an Additional Markman Hearing as to the terms “Anomalous” and “Model of function calls for the at least a [part/portion] of the program”

Norton also moved for an additional Markman hearing to construe the terms “anomalous” (the basis of the two reversals from the Federal Circuit) and “model of function calls for the at least a [part/portion] of the program” in those claims. Columbia opposed. The Court granted the motion for an additional Markman hearing. (ECF No. 256.)

¹⁴ The same can and will be said when the Court rules on Norton’s Motion for a New Trial. (See ECF No. 1339.)

On October 7, 2014, the Court issued its first Claim Construction Order, defining “[a]nomaly”/“[a]nomalous” as “[d]eviation/deviating from a model of typical, attack-free computer system usage.” (ECF No. 123, at 2.) In response to a Motion for Clarification from Columbia, the Court concluded on October 23, 2014 that “the model is generated with only attack-free data.” (ECF No. 146, at 2.) The Federal Circuit reversed the Court’s ruling in 2016, holding that “the district court erred in limiting the term ‘anomalous’ to mean that the model here must be built only using attack-free data.” *Columbia v. Symantec*, 811 F.3d at 1370.

Separately, as discussed above, Norton sought IPR in front of the PTAB after the Court issued its entry of Final Judgment in 2014. The PTAB notably adopted the same understanding of “anomalous” in 2015 that the Federal Circuit would apply the following year. The PTAB stated:

Patent Owner argues that the specification contemplates that “attack data” may be used to build the model for comparison to identify anomalous behavior We agree. We decline to limit the “model” to attack-free data and, thus, adopt the following definition for anomalous: “deviation/deviating from a model of typical computer system usage.”

(ECF No. 199-21, at 7; *see also* ECF No. 199-20, at (July 1, 2015 PTAB Decision on ’115 Patent adopting same definition).) This was affirmed by the Federal Circuit several years later. *See Columbia v. Symantec*, 714 F. App’x at 1022.

On November 19, 2019, as part of determining what, if any, additional claim construction hearings needed to occur on remand, the parties waived the need for a Markman hearing as to the meaning of “anomalous,” stating that they agreed that “anomalous” meant “deviating from normal.” (ECF Nos. 285, 286.)

Although in 2019 the Court had been left with the distinct impression that the parties had agreed as to all facets of what “anomalous” meant, a dispute between Columbia and Norton nonetheless arose. The parties appeared to accuse each other of backing out of the original understanding as to “anomalous.” As part of its 2021 ruling on partial summary judgment, the Court ordered the parties to explain the dispute on the record, which they did. (ECF No. 683, 684.)

After review, the Court ruled on this “unnecessarily recurring disagreement” that, “consistent with two appellate decisions, including the Federal Circuit, and an expert opinion from each party’s side,” the Court construed anomalous as meaning deviating from normal and that the “model of function calls” can be built with attack data, attack-free data, or both. (ECF 713, at 2, 4, 9 (sealed).)

2. Norton’s Motion for a Judgment on the Pleadings Arguing that the Remaining Claims of the ’115 and ’322 Patents were Unpatentable Under 35 U.S.C. § 101 as Abstract Ideas without Inventive Concept

While the Motions for Partial Summary Judgment and for a Markman hearing were pending, Norton filed a Motion for Judgment on the Pleadings pursuant to Fed. R. Civ. P. 12(c). Norton asked the Court to deem the remaining claims in the ’115 and ’322 Patents unpatentable under 35 U.S.C. § 101 because they were directed to an abstract idea and lacked an inventive concept. (ECF No. 245.) The Court found otherwise. (*See* ECF Nos. 288, 289.)

Given the statutory presumption of patent validity, *see* 35 U.S.C. § 282(a), and the standard of review appropriate when reviewing a Rule 12(c) motion, the Court concluded that Norton had failed to show by clear and convincing evidence that those purported improvements were invalid abstract ideas. *See* 35 U.S.C. § 282(a); *Content Extraction & Transmission LLC*, 776 F.3d at 1348. (ECF No. 288, at 24.) The Court concluded

that the patents' innovations improve computer functionality by improving computer virus scanning.

3. Claim Construction Definitions Given as Jury Instruction

At trial, the Court instructed the jury about how four claims were construed. As to both the '115 and '322 Patents, the Court instructed the following:

1. The term "emulator" means "software, alone or in combination with hardware, that permits the monitoring and selective execution of certain parts, or all, of a program."
2. The phrase "model of function calls for a [part/portion] of the program" means "model of function calls created by modeling program executions."
3. The term "anomalous" means "deviating from normal," and the "model of function calls" used to make that determination can be built with attack data, attack-free data, or both.

For the '115 Patent:

4. The phrase "application community" means "members of a community running the same program or a selected portion of the program."

(ECF No. 1220, at 23–4; Apr. 27 Trial Tr. 2826:21–2827:10.)

4. Daubert Motions and Motions in Limine

The Court received seven *Daubert* Motions regarding expert testimony and held three days of argument as to the motions. (ECF Nos. 658–660.) The Court also received twenty-one Motions *in Limine* on the date due in the Final Pretrial Order. (See ECF Nos. 484–498.) All of the Court's rulings are on the record. Nothing in Norton's Motion for Judgment convinces this Court to change its rulings (including those on jury instructions and motions for reconsideration), but the Court will review some of them as they pertain to this Renewed Motion for Judgment. Nor do Norton's arguments convince the Court that Norton has met its heavy burden of proof to prevail on its RJMOL.

D. Conduct of the Jury

As discussed above, the Court must affirm the jury's verdict if, viewing the facts in the light most favorable to Columbia, the Court finds that sufficient evidence supports the jury's decision. In other words, after viewing the evidence in the light most favorable to Columbia and making reasonable inference in Columbia's favor, the Court may only grant the Motion for Judgment if it finds that the only conclusion a reasonable jury could have reached is one in favor of Norton. Given that standard, the Court will next discuss the especially attentive jury that served in this case.

1. Jury Questions and Deliberation

The 15-day trial in this matter began on April 12, 2022. (ECF No. 1114.) On April 26, 2022, the parties rested, and the jury heard closing arguments. (ECF. No. 1199.) The next day, April 27, 2022, the Court issued the jury its instructions¹⁵ and the jury began deliberations. (ECF No. 1200.) Over the course of the jury's four-day deliberations, the jury asked three questions of the Court, (ECF Nos. 1200, 1203, 1204), one of which resulted in the revision of the special verdict form and one of the jury instructions, (ECF No. 1203-2).

On April 27, the first day of deliberations, the jury presented the first of its three questions.¹⁶ After extensive argument, including about whether to alter the Special Verdict

¹⁵ On April 11, 2022, the Court heard objections to its proposed jury instructions. (ECF No. 1208, at 112–18; Apr. 11 Trial Tr. 112:9–118:4.) Final instructions were determined with each party preserving its objections. For instance, Norton preserved its objection to the jury being instructed as to damages for foreign sales. (ECF No. 1208, at 146–47; Apr. 11 Trial Tr. at p. 146:22–47:17.) A Special Verdict Form was also decided upon. All objections were preserved, including Norton's Objection to Question 13 involving foreign sales. (ECF No. 1200-1; ECF. No. 1208, at 167–70; Apr. 11 Trial Tr. 167:3–70:12.)

¹⁶ The jury asked: "Instruction Number 6, #1 makes distinction between infringement and the doctrine of equivalence [sic]. However, the juror verdict form has no separate question

Form, the Court responded with what it had said before, explaining that Question 1 asked only about literal infringement. “It does not ask about the doctrine of equivalents. And the doctrine of equivalents arises only under the ’115 Patent.” (ECF No. 1220, at 95; Apr. 27 Trial Tr. 2898:9–11.)

The next day, the jury asked a second perspicacious question. It said:

Your honor,
We heard you say yesterday that the doctrine of equivalence [sic] only comes into play with the ’115 (not ’322). Our understanding is that [the] doctrine of equivalence [sic] does come into play with ’322, but only for the purpose of indirect infringement, not direct. (i.e. Instruction 15 and 16)

Additionally, we think there is still a contradiction with Instruction 6 which says we must decide “literally or under the doctrine of equivalents:” . . . “of the ’115 and the ’322 patents.”

(ECF No. 1203-1; ECF No. 1221, at 9; Apr. 28 Trial Tr. 2910:3–14.)

After another round of extensive argument that resulted in overnight briefing, the Court reached what would be a proper limiting instruction – a first for this Court – a Revised Special Verdict Form inspired by the jury’s question. Observing that the jury was “asking such intelligent and careful questions” about issues that the lawyers and the Court had not noticed, additional instructions and a far more detailed Revised Special Verdict Form were provided.

(ECF No. 1221, at 51; Apr. 28 Trial Tr. 2592:4–5.) The Instruction was given, as was the Revised Special Verdict Form, and the jury retired to deliberate further. The Court added that “we all -- the lawyers included -- thank you for how careful and thorough you’re being because it really does matter.” (ECF No. 1221, at 51; Apr. 28 Trial Tr. 2592:7–10.)

about equivalence. It only asks about literal infringement. If we feel that Norton infringed only under the doctrine of equivalence [sic], should we answer Yes to Question 1? Please clarify.” (ECF No. 1200-1.)

On Friday, April 28 at 4:45 p.m. the Court took the bench to report a third question from the jury. They reported that they had “reached an impasse as to one of the questions on the verdict form and are unable to reach a consensus/unanimous decision” (ECF No. 1222, at 18; Apr. 29 Trial Tr. 2978:4–7; Dkt. No. 1204-1.) They sought guidance as to “what course of action [they] could take,” including asking if they could complete the verdict form answering only the questions they agreed upon. (ECF No. 1222, at 18; Apr. 29 Trial Tr. 2978:7–13; Dkt. No. 1204-1.) After conference with counsel, the Court issued an Allen charge and told the jury, “[y]ou may be as leisurely in your deliberations as the occasion may require and you may take all the time which you feel is necessary. We will order dinner for you tonight or make arrangements for a return on Monday.” (ECF No. 1222, at 23; Apr. 29 Trial Tr. 2983:1–5.) After returning to the jury room for two minutes, the jury reported that they wanted to return on Monday, May 2, 2022 and Court was adjourned at 6:04 p.m. (ECF No. 1222, at 24–25; Apr. 29 Trial Tr. 2984:4–2985:14.)

The jury took fewer than three hours to reach a verdict on the morning of Monday, May 2, 2022. (ECF No. 1223, at 4; May 2 Trial Tr. 2989:11; ECF No. 1205; ECF No. 1206.)

2. The Verdict

In its verdict, the jury entered specific and detailed findings about the evidence it heard. The jury found that Norton had infringed the ’115 and ’322 Patents. Specifically, as to the ’322 Patent, the jury found that Columbia “ha[d] proven by a preponderance of the evidence that Norton directly and literally infringed” Claims 2, 11, and 27, (ECF No. 1206, at 2); that Norton indirectly infringed Claims 2, 11, and 27 through induced infringement, (ECF No. 1206, at 2); that Norton indirectly infringed Claims 2, 11, and 27 through contributory infringement, (ECF No. 1206, at 2–3); and, that Norton’s infringement of the ’322 Patent was willful, (ECF

No. 1206, at 4). And as to the '115 Patent, the jury found that Columbia had “prove[n] by a preponderance of the evidence that Norton directly and literally infringed . . . Claim 2 of the '115 Patent and that this infringement was willful. (ECF No. 1206, at 3–4.)

The jury awarded Columbia damages, in the form of a reasonable royalty, of \$185,112,727 to compensate for Norton’s infringement of the '115 and '322 Patents. (ECF No. 1206, at 4.) This number included “a royalty for Norton’s sales to customers located outside of the United States,” (ECF No. 1206, at 4), as the jury found that Columbia had “prove[n] by a preponderance of the evidence that the infringing product sold to customers outside of the United States was made in the United States” and “distributed from the United States.” (ECF No. 1206, at 5.) The jury determined a value of \$94,037,265 as the “royalty for sales to non-U.S. customers.” (ECF No. 1206, at 5 (alterations omitted).) The jury determined a value of \$91,075,462 as the “royalty for sales to U.S. customers.” (ECF No. 1206, at 5 (alterations omitted).)

IV. Analysis

The Court will deny Norton’s Renewed Motion for Judgment. “The right to a trial by jury is enshrined by the Seventh Amendment. And the Federal Rules of Civil Procedure require that juries, not judges, decide cases so long as there is evidence from which a reasonable decision can be made.” *Clark*, 60 F.4th at 815. Here, sufficient evidence supported the jury’s findings regarding Norton’s direct, willful, induced, and contributory infringement of the '115 and '322 Patents. Thus, the Court will not disturb the jury’s findings on these issues. In addition, sufficient evidence supported the jury’s damages determination of a 1% reasonable royalty based on testimony from Columbia’s damages experts, Dr. Eric Cole and Dr. Ryan Sullivan. Finally, the Court previously determined that the issue of whether Columbia could claim damages for

sales to customers outside of the United States presented a factual question for the jury, and sufficient evidence supported the jury's determination that Columbia could collect a reasonable royalty for sales to customers outside of the United States. Therefore, the Court will not grant judgment as a matter of law in Norton's favor on any of the issues Norton raises in its Renewed Motion for Judgment.

A. The Court Will Deny Norton's Motion as to Columbia's Direct Infringement Claims Because Substantial Evidence Supported the Jury's Findings that Norton Directly Infringed the '115 and '322 Patents

Norton begins by arguing that this Court should grant judgment as a matter of law in favor of Norton as to Columbia's direct infringement claims regarding the '115 and '322 Patents. (ECF No. 1254, at 7.)

"To prove direct infringement, the plaintiff must establish by a preponderance of the evidence that one or more claims of the patent read on the accused device literally or under the doctrine of equivalents." *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1310 (Fed. Cir. 2005) (citation omitted). At trial, the jury found that Norton literally infringed both the '115 and '322 Patents, so it did not reach the issue of whether Norton infringed the patents under the doctrine of equivalents. (ECF No. 1206.)

1. Sufficient Evidence Supported the Jury's Finding That Norton Directly Infringed the '322 Patent

As to the '322 Patent, in what amounts to an post-trial series of additional or repeated claim construction arguments, Norton contends that SONAR/BASH does not practice each of the two elements shared by Claims 2, 11, and 27. Specifically, Norton asserts that SONAR/BASH does not: (1) "execut[e] at least a portion of a program in an emulator;" or, (2) "compar[e] a function call made in the emulator" to a model of function calls, "wherein the model is a combined model created from at least two models created using different computers." (ECF

No. 1254, at 7–8.) Thus, in Norton’s view, because “[l]iteral infringement requires that ‘every limitation set forth in a claim must be found in an accused product, exactly,’” and because SONAR/BASH does not practice the two elements shared by Claims 2, 11, and 27, SONAR/BASH does not infringe the ’322 Patent. *Teashot LLC v. Green Mountain Coffee Roasters, Inc.*, 595 F. App’x 983, 986 (Fed. Cir. 2015) (quoting *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995)). The Court finds otherwise.

a. Sufficient Evidence Indicated That SONAR/BASH “Execut[es] at Least a Portion of a Program in an Emulator”

Regarding the first element, Norton avers that programs are not executed “in” SONAR/BASH—the emulator—and that function calls are not made in SONAR/BASH.¹⁷ (ECF No. 1254, at 8–10.) In its argument on this issue, Norton focuses entirely on whether SONAR/BASH “execut[es] at least a portion of a program in an emulator.” (ECF No. 1254, at 7.) It offers no additional argument regarding whether function calls are made within SONAR/BASH. The Court readily finds that the jury heard sufficient evidence at trial to support their finding that SONAR/BASH execut[es] at least a portion of a program in an emulator.

Columbia’s computer science expert, Dr. Michael Bailey, as well as Norton’s witnesses and documents, provided the jury with sufficient evidence to conclude that programs *are*

¹⁷ To the extent Norton contends that the claims require programs to execute in SONAR/BASH alone—that is, that programs executing within SONAR/BASH may not execute elsewhere in the operating system—this presented a factual question for the jury. (ECF No. 717, at 14–15 (sealed).) The jury evidently did not agree with Norton, and the Court will not disturb that finding. Moreover, to the extent Norton seeks to engage in post-trial claim construction, “it is improper for the district court to adopt a new or more detailed claim construction in connection with [a] JMOL motion,” and this Court will not allow it. *Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1320 (Fed. Cir. 2003); *see also Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 904 F.3d 965, 974 (Fed. Cir. 2018) (“It is well-settled that a party cannot reserve a new claim-construction argument for the post-trial motion stage.”).

executed within SONAR/BASH. (*See, e.g.*, ECF No. 1212, at 80; Apr. 15 Trial Tr. 1037:1–17; ECF No. 1213, at 164; Apr. 18 Trial Tr. 1271:1–19; ECF No. 1217, at 117; Apr. 22 Trial Tr. 1995:1–24; PX-588, at 55; PX-471, at 2–3.) For example, Dr. Bailey stated at trial that “an operating environment with SONAR/BASH installed allows for the monitoring and selective execution of programs that are running in that environment,” and that “without BASH installed [the operating environment does] not have the ability to monitor and selectively execute [those programs].” (ECF No. 1212, at 80; Apr. 15 Trial Tr. 1037:6–9; ECF No. 1213, at 164; Apr. 18 Trial Tr. 1271:4–6.) Norton software engineer David Kane also acknowledged that “the BASH engine is just a monitoring system [that] execut[es] programs.” (ECF No. 1217, at 117; Apr. 22 Trial Tr. 1995:8–11.) Norton documents shown to the jury likewise supported this contention. (*See* PX-588, at 55; PX-471, at 2–3.)

Norton claims that it presented overwhelming evidence to the contrary. Specifically, Norton argues that the trial testimony of Mr. Kane and Norton’s technical expert, Dr. Trent Jaeger, precludes any finding that the program is running “in” SONAR/BASH. (ECF No. 1254, at 9–10.) For example, Mr. Kane testified that if SONAR/BASH is monitoring a game, the game is not running “in” SONAR/BASH. (*See* ECF No. 1217, at 157; Apr. 22 Trial Tr. 2035:5–21.) Further, Norton documents state that “BASH inserts hooks into the windows kernel as well as user-mode monitor file, registry and other changes made by any process. Details about these changes are stored in a local database for subsequent use in the event the process is detected as malicious.” (PX-471, at 3.) Dr. Jaeger explained this to the jury by testifying that “BASH inserts hooks to divert the execution . . . from the program to the BASH component” which means that the “program is executing outside of BASH.” (*See* ECF No. 1217, at 191–192; Apr. 22 Trial Tr. 2069:13–2070:5.)

However, Norton relies on only a portion of this Court’s definition of “emulator” which, when taken out of context, leads to an improper analysis. Norton argues that “[t]he Court’s construction of ‘emulator’ requires that the emulator *itself* must ‘permit[] the monitoring and selective execution of certain parts, or all, of a program.’” (ECF No. 1287, at 7 (emphasis in original).) However, the Court defined “emulator” as “[s]oftware, *alone or in combination with hardware*, that permits the monitoring and selective execution of certain parts, or all, of a program.” (ECF No. 123, at 2 (emphasis added).)

A motion for judgment as a matter of law is “not an occasion for the Court to usurp the jury’s authority to weigh the evidence and gauge the credibility of witnesses.” *DNT, LLC v. Sprint Spectrum, LP*, 750 F. Supp. 2d 616, 628 (E.D. Va. 2010) (citation omitted); *see also Reynolds Consumer Prods., Inc. v. Handi-Foil Corp.*, Case No. 1:13–CV–214, 2014 WL 3615853, at *2 (E.D. Va. July 18, 2014) (quoting *Konkel v. Bob Evans Farms Inc.*, 165 F.3d 275, 279 (4th Cir. 1999)) (explaining that a renewed motion for judgment as a matter of law “should be granted [only] if a district court determines, without weighing the evidence or considering the credibility of the witnesses, that substantial evidence does not support the jury’s findings”).

Consequently, because sufficient evidence supported the jury’s determination as to whether SONAR/BASH “execut[es] at least a portion of a program in an emulator,” as required by the ’322 Patent, the Court will deny Norton’s Motion for Judgment as it pertains to that element of Claims 2, 11, and 27.

b. Sufficient Evidence Supported the Jury’s Finding That SONAR/BASH “Compar[es] a Function Call Made in the Emulator” to a Model of Function Calls, “Wherein the Model Is a Combined Model Created from at Least Two Models Created Using Different Computers”

As to the second element, Norton submits that “BASH submissions are not ‘models,’ and [that] the BASH decision tree is not a ‘combined model’ as required by the asserted claims.” (ECF No. 1254, at 10 (alterations omitted).) Norton alleges that “BASH submissions contain certain facts or ‘attributes’ about programs, but are not models that are combined together,” and instead, that they “are mere data.” (ECF No. 1254, at 11.) Specifically, Norton declares that “BASH submissions are training data used to train the BASH decision tree” and that “the ordinary meaning of ‘model’ cannot encompass training data.” (ECF No. 1254, at 11–12.) Indeed, Columbia acknowledges Norton’s view, stating that “[a]t trial, the parties presented a fact dispute: whether BASH submissions are *models* of program behavior such that a SONAR/BASH decision tree—created through algorithmic combination of BASH submissions—is a *combined model* of function calls.” (ECF No. 1283, at 9.)

Importantly, however, Columbia presented sufficient evidence at trial to enable the jury to conclude that BASH submissions *are* “models” and that the BASH decision tree *is* a “combined model.” Dr. Bailey testified that BASH submissions are models and explained this finding. (*See, e.g.*, ECF No. 1213, at 82; April 18 Trial Tr. 1188:4–12.) For instance, he stated that BASH submissions are “careful representation[s] of a system or process [that] includ[es] the components of the BASH submission, such as] the system change attribute, the static and dynamic attributes, and . . . the disposition from scoring, as well as the path through the tree,”

among other elements.¹⁸ (ECF No. 1213, at 82, 84; April 18 Trial Tr. 1188:7–12.) He further explained that the information contained in the BASH submission enabled him to predict whether the function call would be scored as anomalous or not. (See ECF No. 1213, at 88; April 18 Trial Tr. 1194:7–17.) Additionally, Dr. Bailey stated that when BASH submissions were used as inputs to train the decision tree, the resulting decision tree was a combined model.¹⁹ (See ECF No. 1213, at 96–97; April 18 Trial Tr. 1202:2–1203:18.)

¹⁸ Norton argues in its Motion for Judgment that this testimony improperly relied on an extrinsic dictionary to “define ‘model’ as ‘a representation of a system or a process.’” (ECF No. 1254, at 11–13.) However, Norton’s witnesses provided similar testimony. (See ECF No. 1218, at 38; April 25 Trial Tr. 2202:2–11; ECF No. 1283-3, at 20; ECF No. 1214, at 14; April 19 Trial Tr. 1417:6; JX-004, at 20.) For example, Dr. Jaeger testified that a “model . . . needs to be at least a representation of information.” (ECF No. 1218, at 38; April 25 Trial Tr. 2202:3–6.) The Court will not entertain Norton’s contrived argument at this late stage. See *Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1320 (Fed. Cir. 2003).

¹⁹ Norton argues that Dr. Bailey’s admission “that he did not identify any documents, testimony, or source code from Norton that called a BASH submission a ‘submission model’ or as containing a ‘submission model,’” supports their contention that BASH submissions are not models. (ECF No. 1254, at 11.) However, that BASH submissions are not labeled as models in Norton materials or source does not mean that they are not models in reality.

Likewise, Norton contends that BASH submissions cannot be models because they are training data, arguing that a distinction exists between models and training data. (See ECF No. 1254, at 11–13.) Norton argues that the Court improperly excluded Dr. Jaeger’s testimony about patent specification that would have shown that the ordinary meaning of “model” excludes training data. (ECF No. 1254, at 13.) This evidentiary challenge is procedurally improper. *ProtoStorm, LLC v. Antonellis, Terry, Stout & Cross, LLP* (2015 WL 3605143, at *15 (E.D.N.Y. June 5, 2015) ([A] Rule 50 Motion . . . is a vehicle to challenge the sufficiency of evidence presented in a case, not evidentiary rulings.) Even if the challenge were proper, the Court stated proper reasons for excluding Norton’s expert from testifying that claims are limited to examples in the specification. (ECF No. 1217, at 12–19, 25, 28, 167–172; April 22 Trial Tr. 1890: 3–1897:5; 1903:7–13, 1906:6–1907:1; 2045:2–2050:20.)

Finally, that BASH submissions are used to train the decision tree does not necessitate a conclusion that they are not models. Dr. Bailey testified that “to train a decision tree” means “to take a set of input data and apply the mathematical algorithms to output a decision tree,” and that the input data can be a model. (ECF No. 1213, at 96; April 18 Trial Tr. 1202:11–15.) The jury chose to credit that testimony, and this Court will not disturb that choice.

Moreover, Norton's witnesses and documents also provided evidence supporting Columbia's argument. Norton's 30(b)(6) witness, Mr. Shane Pereira, for example, declared that the BASH decision tree is "a combination of the models of known good and known bad," even acknowledging that "combining an understanding of both" good and bad models facilitates the creation of the most robust models. (ECF No. 1283-3, at 22; ECF No. 1214, at 14; April 19 Trial Tr. 1417:6; JX-004, 22.) Further, a 2016 article published by Norton discussing Norton's approach to machine learning described how the data used to train "classifier systems on 'good' and 'bad'" was used in models that were then combined to improve predictions. (PX-236, at 3.)

In contrast, Norton presented evidence to support its argument that "BASH submissions are not 'models,' and [that] the BASH decision tree is not a 'combined model' as required by the asserted claims." (ECF No. 1254, at 10 (alterations omitted).) Mr. Kane opines that "the SONAR decision tree is not a combination of models" but that it is "a combination of good and bad attributes that yield our model" and that those "attributes" are not "models." (ECF No. 1217, at 91; April 22 Trial Tr. 1969:17–25.) The "attributes" have been taken out of submissions to SONAR/BASH and "provide[d] [] to the machine learning algorithm to produce a new tree." (ECF No. 1217, at 89; April 22 Trial Tr. 1967:5–10.) Mr. Kane further testified that the "decision tree in SONAR/Bash" has never been "made by combining an all good or valid decision tree with an all bad or malicious decision tree." (ECF No. 1217, at 95; April 22 Trial Tr. 1973:2–6).

Dr. Jaeger explained that "a submission is basically data about a specific program execution" and that it "has attributes and a . . . specific value for those attributes." (ECF 1217, at 202–03; April 22 Trial Tr. 2080:18–2081:2.) Dr. Jaeger continued to say that the "data about a specific program execution, a single program execution, that's been implicated one way or

another and sent from the BASH client to Norton” is “data” and not a “model.” (ECF No. 1217, 208–09; April 22 Trial Tr. 2086:21–2087:3.) Finally, Norton attempts to have Dr. Jaeger clarify Mr. Pereira’s deposition testimony by explaining that “Mr. Pereira is saying [] that these submissions, which is – you recall had attributes and concrete values associated with those attributes, these submissions are used as – as the known good and known bad samples that are fed as training data, I would interpret into a machine-learning algorithm to create a single tree.” (ECF No. 1218, at 59; April 25 Trial Tr. 2223:19–24.)

Nonetheless, the jury weighted that evidence, made credibility determinations, and found in favor of Columbia’s position. As the Court has already explained, a motion for judgment as a matter of law is “not an occasion for the Court to usurp the jury’s authority to weigh the evidence and gauge the credibility of witnesses.” *DNT, LLC v. Sprint Spectrum, LP*, 750 F. Supp. 2d 616, 628 (E.D. Va. 2010) (citation omitted); *see also Reynolds Consumer Prods., Inc. v. Handi-Foil Corp.*, Case No. 1:13–CV–214, 2014 WL 3615853, at *2 (E.D. Va. July 18, 2014) (quoting *Konkel v. Bob Evans Farms Inc.*, 165 F.3d 275, 279 (4th Cir. 1999)) (explaining that a renewed motion for judgment as a matter of law “should be granted [only] if a district court determines, without weighing the evidence or considering the credibility of the witnesses, that substantial evidence does not support the jury’s findings”).

Because sufficient evidence supported the jury’s determination that BASH submissions *are* “models” and that the BASH decision tree *is* a “combined model,” the Court will deny Norton’s Motion as it pertains to that element of Claims 2, 11, and 27.

2. **Sufficient Evidence Supported the Jury’s Finding That Norton Directly Infringed the ’115 Patent**

Norton also states that it did not infringe the ’115 Patent, (which “includes substantively the same limitations as the ’322 Patent) “for an additional, independent reason[:]” the

SONAR/BASH decision tree does not practice Claim 2 of the '115 Patent in that it does not, “upon identifying [an] anomalous function call, notify[] an application community that includes a plurality of computers of the anomalous function call.” (ECF No. 1254, at 14.) In particular, Norton maintains that “[i]f SONAR/BASH’s decision tree identifies a function call as anomalous, it will create and send a submission to the server, but that submission is never sent to ‘an application community.’” (ECF No. 1254, at 15.) Further, Norton asserts that “even if . . . the BASH decision tree is somehow a notification of an anomalous function call,” this alleged notification does not happen “*upon identifying* the anomalous function call.” (ECF No. 1254, at 15.) (emphasis in original). Norton avers that “the last iteration of the BASH decision tree was sent out five years ago,” and even before the last iteration’s release, Norton only updated the decision trees “roughly every six months.” (ECF No. 1254, at 15–16.) Therefore, in Norton’s view, SONAR/BASH does not literally infringe the '115 Patent.

Nevertheless, sufficient evidence supported the jury’s finding that the SONAR/BASH decision tree *does*, “upon identifying [an] anomalous function call, notify[] an application community that includes a plurality of computers of the anomalous function call.” (ECF No. 1254, at 14.) That is, sufficient evidence supported the jury’s finding that the SONAR/BASH decision tree *does* practice claim 2 of the '115 Patent.

To begin, sufficient evidence indicated that Norton’s customers constitute an “application community” and that this “application community” includes a “plurality of computers.” For instance, using the Court’s construction of the term “application community,” Dr. Bailey testified that “[m]embers of a community running the same program or a selected portion of the program” means that an application community consists of individuals running a program on their computers that they “share in common with every member of the community.” (ECF

No. 1213, at 135; April 18 Trial Tr. 1241:9–21.) He also provided an analogy for the jury, stating that “if [individuals] all run Microsoft Word [on their computers], [they are] part of the [a]pplication [c]ommunity that includes Microsoft Word,” and that, likewise, “[i]f [individuals] all run Norton’s SONAR/BASH products [on their computers], [they are] all part of an [a]pplication [c]ommunity that runs SONAR/BASH.” (ECF No. 1213, at 135; April 18 Trial Tr. 1241:12–15.) Dr. Bailey further explained that “a plurality of computers” means “more than one” computer and that SONAR/BASH ran on more than one computer. (ECF No. 1213, at 136; April 18 Trial Tr. 1242:7–12 (referencing that it ran on 41 million computers in one week in 2014).) Mr. Pereira also acknowledged that “BASH decision trees [ran] on the community member computers,” (ECF No. 1283-3, at 18; ECF No. 1214, at 14; April 19 Trial Tr. 1417:6; JX-004, 228:3–6), testimony that Dr. Jaeger did not dispute at trial, (ECF No. 1217, at 258–59; April 22 Trial Tr. 2136:25–2137:14).

Moreover, the parties adduced a three-part process by which Norton collected BASH submissions, created new decision trees, and then sent the new combined model to Norton’s customers. (ECF No. 1213, at 136–37; April 18 Trial Tr. 1242:24–12:43:14.) On direct examination, Dr. Bailey described the process, stating that in the first step, SONAR/BASH would “identify an anomalous function call” and send a BASH submission to Norton; then, in the second step, “Norton [would] use the information in the BASH submission[] to train a new combined model to protect its customers[;]” and finally, in the third step, Norton would “send that combined model back to [its] customers to enhance their protection.” (ECF No. 1213, at 136–37; April 18 Trial Tr. 1242:24–1243:9.) Mr. Pereira, Norton’s 30(b)(6) witness, echoed Dr. Bailey’s description, declaring that “when those community member computers run [SONAR/BASH], [SONAR/BASH] collect[s] behavior information[,] . . . [and] send[s] [it back]

to [Norton],” that Norton uses that behavioral data to update the decision tree, and that the updated version of the [decision] tree [is then] sent back to the community members.” (ECF No. 1283-3, at 18–19; ECF No. 1214, at 14; April 19 Trial Tr. 1417:6; JX-004 228:9–14; 229:11–13; 229:25–230:5.) And Dr. Jaeger did not dispute this testimony at trial. (ECF No. 1217, at 258–59; April 22 Trial Tr. 2136:25–2137:14.) With this evidence in mind, the jury was well-equipped to determine that the SONAR/BASH decision tree “notif[ies] an application community that includes a plurality of computers of the anomalous function call.” (ECF No. 1254, at 14.)

Norton also seeks to impose an immediacy requirement. (*See* ECF No. 1254, at 15 (stating that “[t]he Court did not construe ‘upon identifying,’ but the plain and ordinary meaning of that phrase requires at least a contemporaneous notification of the detection,” and quoting Dr. Jaeger’s testimony that “that there may not be immediate, but there should be a prompt notification that, hey, something’s happened, and then the notification goes out”).) Notably, the Court rejected this argument as untimely claim construction in its *Daubert* opinion regarding Dr. Jaeger, and it would be improper to rule upon it again here. (*See* ECF No. 717 (sealed), at 12–13.)

But even if the Court had not already addressed the issue of an immediacy requirement, it would still decline to disturb the jury’s verdict. For one thing, Norton failed to offer evidence as to what length or lengths of time would satisfy Claim 2. Yet Columbia’s witness, Dr. Bailey, testified that the length of time between identification of an anomalous function call and “Norton sending out the new decision tree . . . ma[d]e sense to [him] from a commercial perspective” because “the value Norton is receiving from the combined models and making use of the BASH submission models” stems from “provid[ing] the most robust model [it] can” to community

members.” (ECF No. 1213, at 141; April 18 Trial Tr. 1247:11–21.) That is, it made sense to Dr. Bailey that Norton would aggregate the BASH submissions “and make decisions about when best to update the [decision tree] for its customers.”²⁰ (ECF No. 1213, at 141; April 18 Trial Tr. 1247:22–25.) That Dr. Jaeger had a different opinion (that there should be “prompt notification” and that the timing between identification of the anomalous function call and the distribution of the new decision tree was not “prompt,” (ECF No. 1217, at 212–14; April 22 Trial Tr. 2090:1–4, 2091:13–2092:4)) does not necessitate a finding for Norton at this time.

Like its attempt to impose an immediacy requirement, Norton also asserts that the SONAR/BASH decision tree does not practice Claim 2 of the ’115 Patent because Norton’s customers’ computers were “[n]ever made aware of any particular anomalous function call from some other customer computer via a submission (or any other means).” (ECF No. 1254, at 15.) However, this is, once again, simply a new claim construction argument, and it is not well taken at this late stage. *See Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1320 (Fed. Cir. 2003) (“[I]t is improper for the district court to adopt a new or more detailed claim construction in connection with [a] JMOL motion”); *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 904 F.3d 965, 974 (Fed. Cir. 2018) (“It is well-settled that a party cannot reserve a new claim-construction argument for the post-trial motion stage.”). Moreover, Dr. Bailey’s testimony at trial indicated that it would be commercially infeasible for Accused Products to notify the application community members of each anomalous function call identified. (*See* ECF No. 1213, at 141–42; April 18 Trial Tr. 1247:11–24.) Norton’s displeasure with the jury’s

²⁰ Dr. Bailey further noted that he did not “think[, for example,] that the inventors [of the patented technology] envisioned the 41 million people running [Norton] enterprise products, receiving pop-ups[] that some person on the other side of the country’s version of Word just crashed and that it would be good for [everyone else] to learn from that.” (ECF No. 1213, at 142; April 18 Trial Tr. 1248:12–17.)

decision to credit this testimony over the evidence Norton provided is not a basis to overturn the jury's finding.

Thus, because sufficient evidence supported the jury's determination that Norton directly infringed the '115 Patent, the Court will deny Norton's Motion for Judgment as it pertains to direct infringement of the '115 Patent.

3. Sufficient Evidence Supported the Jury's Determination That Norton Willfully Infringed the '115 and '322 Patents

In its Motion for Judgment, Norton submits that “no reasonable jury could have concluded that Columbia provided legally sufficient evidence to support willful infringement, and [that] no reasonable jury could have concluded that Norton knew its actions constituted infringement of an asserted claim or that Norton made itself willfully blind to its infringement of the asserted claims.” (ECF No. 1254, at 21 (citation omitted).)

To succeed on a claim of willful infringement, a plaintiff must prove that the defendant: “(1) had knowledge of or was willfully blind to the existence of the asserted patent and (2) had knowledge of or was willfully blind to the fact that the party's alleged conduct constituted, induced, or contributed to infringement of the asserted patent.”²¹ *Bench Walk Lighting LLC v. LG Innotek Co., Ltd.*, Case No. 20-51-RGA, 2022 WL 606287, at *1 (D. Del. Jan. 4, 2022) (quoting *Dynamic Data Techs., LLC v. Amlogic Holdings Ltd.*, Case No. 19-1239-CFC, 2020 WL 4365809, at *5 (D. Del. July 30, 2020)); *see also Dali Wireless, Inc. v. Corning Optical Commc'ns LLC*, Case No. 20-cv-06469-EMC, 2022 WL 1426951, at *4 (N.D. Cal. May 5, 2022) (“[C]ourts have recognized that allegations of willful blindness can satisfy th[is]

²¹ The knowledge requirement for willful infringement is the same as the knowledge requirements for induced infringement and contributory infringement. *See Roche Diagnostics Corp. v. Meso Scale Diagnostics, LLC*, 30 F.4th 1109, 1119 (Fed. Cir. 2022); *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 764-65 (2011).

knowledge requirement for willful infringement.”) (internal quotations omitted) (second alteration in original). “[K]nowledge of infringement can be inferred from circumstantial evidence,” *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 824 F.3d 1344, 1347 (Fed. Cir. 2016), and the factfinder’s decision to infer knowledge of infringement should be based on the “totality of the circumstances presented in the case,” *WCM Indus., Inc. v. IPS Corp.*, 721 F. App’x 959, 970 (Fed. Cir. 2018) (quoting *Shiley, Inc. v. Bentley Labs., Inc.*, 794 F.2d 1561, 1568 (Fed. Cir. 1986)). Moreover, in assessing whether infringement was willful, the factfinder may consider “whether the defendant intentionally copied a product covered by the patent, whether the defendant reasonably believed it did not infringe the patent, [and] whether the defendant made a good-faith effort to avoid infringement” *AOS Holding Co. v. Bradford White Corp.*, Case No. 18-412-LPS, 2021 WL 5411103, at *21 (D. Del. Mar. 31, 2021) (citing *Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.*, 946 F.3d 1367, 1379 (Fed. Cir. 2020)).

Norton reasons that it had no knowledge of the infringing nature of SONAR/BASH, and that even after the initiation of this case before this Court, it reasonably believed that SONAR/BASH did not infringe the ’115 or ’322 Patents. (*See* ECF No. 1254, at 16–19.) Additionally, Norton states that “Columbia . . . did not advance a theory that Norton willfully copied Columbia’s products,” and that the record lacks “sufficient evidence upon which a reasonable jury could have relied to conclude that Norton was willfully blind by taking deliberate action to avoid learning of infringement.” (ECF No. 1254, at 22.) However, despite Norton’s assertions to the contrary, sufficient evidence supported the jury’s finding that Norton willfully infringed the ’115 and ’322 Patents.

To begin, sufficient evidence at trial, including testimony from Dr. Stolfo, Orin Herskowitz, the senior vice president of intellectual property and technology transfer at

Columbia, and Dr. Bailey, indicated that Norton had actual knowledge of the '115 and '322 Patents throughout the pendency of this matter, and indeed, even before it. Indeed, Columbia offered evidence that Norton knew of Columbia's technology that would form the basis of the '115 or '322 Patents *long before* the patents issued.

First, Dr. Stolfo presented his "communities application invention" in late 2004 at a workshop in which Brian Whitten, a Norton representative, was present. (ECF No. 1210, at 166–67; Apr. 13 Trial Tr. 573:4–574:14.) According to Dr. Stolfo, Mr. Witten expressed interest in licensing the invention from Columbia. (ECF No. 1210, at 167; Apr. 13 Trial Tr. 574:16–20.) On November 1, 2005, Dr. Stolfo followed up with Mr. Witten and, along with Matt McCooe, Columbia's intellectual property representative, and Dr. Keromytis, began a discussion regarding the potential for a non-exclusive license for Norton to integrate the "communities application" into existing Norton products. (ECF No. 1210, at 169–75; Apr. 13 Trial Tr. 576:13–582:25; ECF No. 814-13; PX-83.) On April 12, 2006, Dr. Stolfo emailed Mr. Witten a copy of "a recent paper on the new Anagram sensor we developed." (ECF No. 846-11 (sealed); PX-776, at 2; *see also* ECF No. 1210, at 176; Apr. 13 Trial Tr. 583:1–22.) Dr. Stolfo went on to say that "the IP is owned by Columbia and not licensed to anyone." (ECF No. 846-11 (sealed); PX-776, at 2; *see also* ECF No. 1210, at 176–77; Apr. 13 Trial Tr. 583:11–584:2.)

Second, Mr. Herskowitz testified that there were multiple meetings between Columbia and Norton that involved discussions of Dr. Stolfo and Dr. Keromytis' work. (ECF No. 1209, at 199–200; Apr. 12 Trial Tr. 374:18–375:3.) In June 2010, Mr. Herskowitz met with a group of people, including Norton's chief technology officer, Mark Bregman, to present and discuss a number of Columbia technologies, including the work of Drs. Stolfo and Keromytis. (ECF No. 1209, at 200–05; Apr. 12 Trial Tr. 375:7–380:23.)

Dr. Bailey further added that the “provisional applications were made for the ’115 and ’322 in October 2005. The accused products were released with the functionality that I believe is infringing in 2009 and 2011 based on whether we’re talking about the consumer products or the enterprise products.” (ECF No. 1212, at 70; Apr. 15 Trial Tr. 1027:20–25.)²² Sufficient evidence exists on the record that would support a jury finding that Norton knew about the Columbia professors’ designs and work before the patents issued. *See Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1371 (Fed. Cir. 2017) (affirming the district court’s denial of judgment as a matter of law after the district court found “substantial evidence . . . that [defendant] knew about the patents before they issued” and “conducted only a cursory analysis of the patents” after they had issued); *see also Georgetown Rail Equip. Co. v. Holland L.P.*, 867 F.3d 1229, 1245 (Fed. Cir. 2017) (citation omitted) (declaring that “[s]ubstantial evidence supports the jury’s finding [regarding] willful infringement in this case,” including “evidence of the parties’ prior business dealings from which the jury could have inferred that [the defendant] believed that it needed to acquire or license [the technology at issue] to avoid infringement”).

Likewise, Columbia presented evidence that Norton knew about the ’115 and ’322 Patents *after* they issued, including through Columbia’s filing of this very lawsuit asserting, among other claims, infringement of those patents.²³ On August 14, 2012, Columbia told Norton

²² This evidence cuts against Norton’s argument that it could not have willfully copied “because Columbia had no products on the market to copy” given the dates of the issued patents. (ECF No. 1254, at 22.) The record contains ample evidence supporting a finding that Norton was well aware of the Columbia professors’ designs and work, including provisional applications, as early as 2004. That, in turn, supports the jury’s willfulness finding.

²³ Norton argues that knowledge of the asserted patents alone is insufficient to support a willfulness finding. (ECF No. 1254, at 22.) But as discussed herein, Columbia adduced

about the existence of the '115 patent. (ECF No. 1209, at 220–21; Apr. 12 Trial Tr. 395:24–396:9; ECF No. 834-2 (sealed); PX-331.) Specifically, Columbia sent Norton a letter informing Norton of a number of patent documents and seeking to open discussions regarding possible opportunities for Norton to use these technologies in its existing technologies. (See ECF No. 834-2 (sealed); PX-331, at 1–2.) Finally, Columbia sent Norton a copy of the '322 Patent on December 6, 2013, informing it that the '322 Patent was issued. (See ECF No. 828-7 (sealed); PX-22, at 1.)

Columbia also adduced evidence which would permit the jury to find that Norton “was willfully blind to the fact that [its] conduct constituted, induced, or contributed to infringement of the asserted patent.” *Bench Walk Lighting LLC*, 2022 WL 606287, at *1 (quoting *Dynamic Data Techs., LLC*, 2020 WL 4365809, at *5). First, Norton’s then-director of engineering of the efficacy content team, Barry Laffoon, testified in a 2014 deposition that, at that point, he had not investigated or researched whether SONAR/BASH infringed the '115 or '322 Patents or instructed Norton’s engineers to design around the patents. (ECF No. 1214, at 14–15; Apr. 19 Trial Tr. 1417:16–1418:14; ECF No. 1283-4, at 3–4). This evidence supported the jury’s finding of willful infringement. See *AOS Holding Co.*, 2021 WL 5411103, at *21 (citing *Eko Brands, LLC*, 946 F.3d at 1379) (stating that factfinders may consider “whether the defendant made a good-faith effort to avoid infringement” in determining whether that defendant willfully infringed a patent).

Second, in 2019, Mr. Laffoon, then Norton’s senior director of development, testified at Norton’s Rule 30(b)(6) deposition and confirmed again that Norton employees had not been

additional evidence going to willfulness, and the record as a whole contains sufficient support for the jury’s finding.

instructed to review the patents and determine whether changes should be made to avoid infringement. (ECF No. 1214, at 14–15; Apr. 19 Trial Tr. 1417:16–1418:14; ECF No. 1283-4, at 5–6.) When asked if Norton had had discussions about making changes to its products or processes to avoid infringement of the patents at issue, Mr. Laffoon said, “We don’t do that at [Norton.]” (ECF No. 1283-4, at 6.) When asked to clarify, Mr. Laffoon explained that Norton does not do “the things you said, try to design around patents and things like that.” (ECF No. 1283-4, at 6.) This testimony further supported the jury’s finding that Norton willfully infringed the ’115 and ’322 Patents.²⁴ *See Motiva Patents, LLC v. Sony Corp.*, 408 F. Supp. 3d 819, 837 (E.D. Tex. Sept. 27, 2019) (citing *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93, 104–06 (2016)) (stating that *Halo* held “that recklessness *alone* is enough to show willful infringement” and that “willful avoidance” is conduct *worse* than reckless conduct) (emphasis added).

This evidence of Norton’s actual knowledge of the ’115 and ’322 Patents throughout the pendency of this matter and before it, coupled with evidence of Norton’s willful blindness, is sufficient to sustain the jury’s finding of willful infringement as to the ’115 and ’322 Patents. The Court will deny Norton’s Motion for Judgment as to this issue.

²⁴ While Norton contends that Columbia overstates the import of Mr. Laffoon’s testimony and attempts to downplay the same (*see* ECF No. 1254, at 22–23), the Court notes that Mr. Laffoon testified at deposition as Norton’s corporate designee, thereby binding the company. In addition, it is the province of the jury to consider and decide the import of Mr. Laffoon’s testimony alongside other record evidence. His testimony sufficiently supported the jury’s finding of willfulness.

4. The Court Will Deny Norton's Motion for Judgment as a Matter of Law as It Pertains to the Jury's Finding that Norton Induced Infringement of the '322 Patent Because Substantial Evidence Supported That Finding

In addition to its arguments regarding direct infringement of the '115 and '322 Patents, Norton avers that "based on the . . . evidence [provided at trial], no reasonable jury could have concluded that Norton induced infringement of the '322 patent" (ECF No. 1254, at 16.)

"To prove induced infringement, a [plaintiff] must show [that] 'the [defendant] took an affirmative act to encourage infringement with the knowledge that the induced acts constitute patent infringement.'" *Largan Precision Co., Ltd. v. Genius Elec. Optical Co., Ltd.*, 646 F. App'x 946, 948 (Fed. Cir. 2016) (quoting *Info-Hold, Inc. v. Muzak LLC*, 783 F.3d 1365, 1372 (Fed. Cir. 2015)). "The knowledge requirement 'may be satisfied by a showing of actual knowledge or willful blindness.'" *Id.* (quoting *Info-Hold, Inc.*, 783 F.3d at 1372–73). Meanwhile, "[w]illful blindness requires the alleged inducer to (1) subjectively believe there is a high probability that a fact exists and (2) take deliberate actions to avoid learning of that fact." *Id.* (citing *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 769 (2011)).

Norton submits that "liability for induced infringement requires knowledge that the induced acts constitute patent infringement," (ECF No. 1254, at 16 (citation omitted)), "as well as proof of specific intent and action to induce infringement," (ECF No. 1254, at 17 (citation omitted)), yet "there is no evidence on which a reasonable jury could determine that Norton either . . . knew that its customers infringe the '322 patent, or . . . specifically intended to encourage that infringement."²⁵ (ECF No. 1254, at 17). Norton declares that "[t]here is also no

²⁵ Norton also states that because there is no direct infringement, "there is insufficient evidence to establish inducement." (ECF No. 1254, at 16.) However, the Court has already determined that sufficient evidence supported the jury's findings that Norton directly infringed the '115 and '322 Patents. Consequently, the Court will not address this argument.

evidence that [it] was willfully blind,” and that “[t]he record instead reflects Norton’s unwavering belief that it does not infringe and did not induce infringement by anyone else.” (ECF No. 1254, at 17.) Moreover, Norton explains that it “did not know of, nor was it blind to, the ’322 patent before Columbia sued,” (ECF No.1254, at 17), nor is there sufficient “evidence that [it] intended to infringe the ’322 patent *after* Columbia filed suit,” (ECF No. 1254, at 18).

Norton is incorrect, however. The record at trial sufficiently supports the jury’s finding that Norton induced infringement of the ’322 Patent. For one thing, as found above in Part IV.A.3, *supra*, sufficient evidence supported the jury’s willfulness determination which also supports the knowledge requirement necessary to prove induced infringement.

Moreover, at trial Columbia adduced evidence indicating that SONAR/BASH is “on by default” for Norton customers when they download and install the software, (ECF No. 1213, at 125; Apr. 18 Trial Tr. 1231:21), that Norton employees and documents encourage customers to use SONAR/BASH, (ECF No. 1213, at 126–28, 131–32; Apr. 18 Trial Tr. 1232:10–1234:17, 1237:18–1238:10; *see also* ECF No. 1283-3, at 10), discourage them from disactivating it, (ECF No. 1213, at 133; Apr. 18 Trial Tr. 1239:8–9), and that, consequently, the “vast majority” of Norton’s customers use SONAR/BASH and do not disactivate it, (ECF No. 1213, at 133; Apr. 18 Trial Tr. 1239:10–12). This evidence enabled the jury to find that Norton induced infringement of the ’322 Patent. *See GlaxoSmithKline LLC v. Teva Pharm. USA, Inc.*, 7 F.4th 1320, 1333 (Fed. Cir. 2021) (quoting *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 936 (2005)) (“Evidence of active steps taken to encourage direct infringement such as advertising an infringing use or instructing how to engage in an infringing use, show an affirmative intent that the product be used to infringe . . .”).

Accordingly, because sufficient evidence supported the jury's determination that Norton indirectly infringed the '322 Patent through induced infringement, the Court will deny Norton's Motion for Judgment on this ground.

5. The Court Will Deny Norton's Motion for Judgment as a Matter of Law as It Pertains to the Jury's Finding that Norton Indirectly Infringed Claims 2, 11, and 27 of the '322 Patent Through Contributory Infringement Because Substantial Evidence Supported That Finding

Norton also contends that although "[t]he jury determined that Norton indirectly infringed claims 2, 11, and 27 of the '322 patent by contributing to its customers' infringement[,] . . . [t]he Court should enter judgment as a matter of law of no contributory infringement because no reasonable jury could have reached this conclusion on the record evidence." (ECF No. 1254, at 20.) The Court disagrees.

To prove contributory infringement, a plaintiff must show that: "1) 'there is direct infringement,' 2) 'the accused infringer had knowledge of the patent,' 3) 'the component has no substantial non[-]infringing uses,' and 4) 'the component is a material part of the invention.'" *Koninklijke Philips N.V. v. Zoll Med. Corp.*, 656 F. App'x 504, 522 (Fed. Cir. 2016) (quoting *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1326 (Fed. Cir. 2010)). In its Motion for Judgment, Norton asserts that "Columbia has failed to present sufficient evidence upon which a reasonable jury could determine that the Accused Products have no substantial non-infringing uses."²⁶ (ECF

²⁶ Norton submits two more reasons in support of this argument. First, Norton asserts that "Columbia did not present sufficient evidence upon which a reasonable jury could have relied to find direct infringement," and thus there can be no contributory infringement. (ECF No. 1254, at 20.) Second, as Norton also argued regarding induced infringement, it declares that "Columbia failed to present any evidence upon which a reasonable jury could have found that Norton had the requisite knowledge of patent infringement." (ECF No. 1254, at 20.) However, the Court already has determined that sufficient evidence supported the jury's findings that Norton directly infringed the '115 and '322 Patents, *see* Part IV.A.1–2, *supra*, and it also has

No. 1254, at 20.) That is, Norton alleges that Columbia failed to present sufficient evidence as to the third element of a contributory infringement claim. *See Koninklijke Philips N.V.*, 656 F. App'x at 522 (quoting *Fujitsu Ltd.*, 620 F.3d at 1326).

However, Norton's argument fails. Not only could Columbia's expert, Dr. Bailey, not identify a non-infringing use of SONAR/BASH at trial; neither could Norton. (See ECF No. 1213, at 124; Apr. 18 Trial Tr. 1230:7–13.) "This testimony was the only evidence presented to the jury" about non-infringing uses of SONAR/BASH, and "[i]t is not reasonable to draw a contrary conclusion from the record before the jury."²⁷ *Enplas Display Device Corp. v. Seoul Semiconductor Co., Ltd.*, 909 F.3d 398, 415 (Fed. Cir. 2018) (Newman, J., concurring-in-part and dissenting-in-part) (citation omitted). Thus, Dr. Bailey's "uncontradicted expert testimony constitutes substantial evidence supporting the jury verdict."²⁸ *Id.*; *see also Monsanto Co. v.*

determined that Columbia presented sufficient evidence regarding Norton's knowledge of patent infringement, *see* Part IV.A.3, *supra*. Thus, the Court will not discuss these reasons in the context of contributory infringement.

²⁷ Norton attempts to discount Dr. Bailey's testimony by labelling it nothing more than a "superficial conclusion[]" without "any underlying evidence or explanation." (ECF No. 1254 at 21.) Dr. Bailey testified at trial as Columbia's expert the field of computer security, without objection from Norton. (ECF No. 1211, at 195; Apr. 14 Trial Tr. 915:5–10.) His expert designation certainly qualified him to testify on this issue, and the jury was free to determine how much weight to give Dr. Bailey's testimony, especially in the absence of any contrary evidence from Norton.

²⁸ In its Motion, Norton avers that SONAR/BASH could be turned off within the Accused Products and that therefore, it has a non-infringing use. (ECF No. 1254, at 20–21.) However, "that 'a user can turn off the infringing feature[.]' standing alone, is insufficient to show [a] substantial non-infringing use[.]" *Lone Star Tech. Innovations, LLC v. ASUSTeK Computer Inc.*, Case No. 6:19-CV-00059-RWS, 2020 WL 6803249, at *4 (E.D. Tex. Jan. 14, 2020) (quoting *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1331 (Fed. Cir. 2010)); *see also Bio-Rad Lab'ys, Inc. v. Int'l Trade Comm'n*, 998 F.3d 1320, 1336 (Fed. Cir. 2021) (quoting *Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354, 1363 (Fed. Cir. 2006)) ("[I]t matters not that the assembled device can be manipulated into a non-infringing configuration, because the instructions packaged with each device teach the infringing configuration . . ."). This issue was also addressed in Columbia's Second Motion *in Limine* in which this Court found that Norton

McFarling, 488 F.3d 973, 980–81 (Fed. Cir. 2007) (finding it proper for a jury to make a factual finding based on an expert’s testimony).

Because sufficient evidence supported the jury’s determination that Norton indirectly infringed Claims 2, 11, and 27 of the ’322 Patent through contributory infringement, the Court will deny Norton’s Motion for Judgment as it pertains to contributory infringement of the ’322 Patent.

6. The Court Will Deny Norton’s Motion for Judgment as It Pertains to the Jury’s Damages Finding Because Sufficient Evidence Supported Dr. Cole and Dr. Sullivan’s Testimony at Trial

Norton also argues that “[t]he Court should enter judgment as a matter of law of no damages for the alleged infringement because Columbia failed to present legally sufficient evidence to support its damages claims” for infringement of the ’115 and ’322 Patents. (ECF No. 1254, at 30.) In particular, Norton submits that neither Dr. Cole nor Dr. Sullivan’s “opinion was supported by the evidence adduced at trial.” (ECF No. 1254, at 31.) In doing so, Norton focuses entirely on Dr. Cole’s opinion, merely noting that because Dr. Sullivan prepared his opinion based on Dr. Cole’s apportionment analysis, Dr. Sullivan’s opinion was unsupported by the evidence presented at trial. (ECF No. 1254, at 32–33.)

Norton’s arguments do not pass muster. At the outset, much of Norton’s reasoning appears to be a regurgitation of the arguments made in its Motion to Strike Portions of the Expert Reports of Dr. Eric Cole and Dr. Ryan Sullivan. (*See* ECF No. 1254, at 31–33; ECF No. 374.) This Court ruled that Dr. Cole could opine as to “the value the patented technology contributed to the Accused Products,” deeming his “methodology . . . admissible under [Federal Rule of

failed to show that behavioral policy enforcement was an acceptable non-infringing alternative to SONAR/BASH. (*See* ECF No. 904 (sealed).)

Evidence] 702 and [*Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 589 (1993)].” (ECF No. 737, at 14 (sealed).) The Court will not revisit this ruling.²⁹

Moreover, sufficient evidence supported Dr. Cole and Dr. Sullivan’s opinions. Dr. Cole testified extensively as to his apportionment analysis, including the steps he took to apportion the value of SONAR/BASH to the Accused Products. (*See, e.g.*, ECF No. 1214, at 81–114; Apr. 19 Trial Tr. 1484:1–1517:8.) And Dr. Sullivan then used Dr. Cole’s analysis to calculate a reasonable royalty rate of approximately 1.23%. (*See* ECF No. 1216, at 84–90; Apr. 21 Trial Tr. 1752:25–1758:20.) The jury chose to credit Dr. Cole and Dr. Sullivan’s testimony, ultimately determining a reasonable royalty rate of 1%. Given the sufficiency of the evidence before the jury, it is not this Court’s place to disturb that finding.³⁰ *See Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1299 (Fed. Cir. 2015) (“[D]isputes over the expert’s credibility or over the accuracy of the underlying facts are for the jury.”).

²⁹ Norton invites the Court to reconsider its *Daubert* ruling by claiming that Dr. Cole admitted certain assumptions he relied upon were incorrect. (ECF No. 1254, at 31.) At core, Norton challenges Dr. Cole’s analysis based on what Norton perceives as his inadequate explanations for differences in numbers included in a 2014 report versus a 2019 report. (ECF No. 1254, at 31–32.) While Norton may not have liked (or believed) Dr. Cole’s explanations on cross-examination, that does not render Dr. Cole’s analysis speculative, economically unsound, or unreliable as Norton suggests. (*See* ECF No. 1254, at 32.) Again, the jury weighed all of the evidence presented at trial, including the expert opinions provided by Dr. Cole and Dr. Sullivan, and reached a decision on damages. The Court finds that sufficient evidence supports the jury’s award.

³⁰ In addition, evidence at trial indicated that Norton had previously offered to pay a 10% royalty rate for the technology that would become that described in the ’115 and ’322 Patents. (*See* PX-83, at 2; ECF No. 1218, at 17; Apr. 25 Trial Tr. 2181:17–18.); *see also Commonwealth Sci. & Indus. Rsch. Org. v. Cisco Sys., Inc.*, 809 F.3d 1295, 1303 (Fed. Cir. 2015) (explaining that the district court did not err in using a rate suggested by the defendant as a possible royalty during licensing discussions “as a lower bound on a reasonable royalty”).

Consequently, because sufficient evidence supported Dr. Cole and Dr. Sullivan's testimony at trial, the Court will deny Norton's Motion as it pertains to the jury's 1% reasonable royalty rate calculation.

7. The Court Will Not Overturn the Jury's Findings Regarding Infringement and Damages Pertaining to Sales Outside of the United States Because It Has Already Ruled Upon This Issue, and Sufficient Evidence Supported the Jury's Verdict on It

Norton has raised this objection via a plethora of avenues. The Court rejected Norton's *Daubert* Motion to Strike Dr. Sullivan's testimony regarding revenue from sales outside of the United States. (ECF No. 737 (sealed), at 21–34.) The Court allowed Dr. Sullivan to testify as to his opinion that the Accused Products were made, offered for sale, or sold in the United States. This did not occur until after multiple rounds of briefing, including a Motion to Strike, objections to jury instructions, and a Motion to Reconsider the Court's ruling on this issue. (ECF Nos. 737 (sealed), 1048-1, 1066-1, 926 (sealed).) Nothing in this Renewed Motion for Judgment as a Matter of Law alters the Court's position on this issue. Columbia adduced sufficient evidence for a reasonable trier of fact to find in favor of Columbia as to foreign sales. *See Pitrolo*, 407 F. App'x at 659 (citing *Int'l Ground Transp.*, 475 F.3d at 218–19).

Norton argues that “there was insufficient evidence upon which a reasonable jury could return a verdict of infringement and for damages for sales outside the United States.” (ECF No. 1254, at 24 (alterations omitted).) Specifically, Norton presents two arguments: (1) that “there is no evidence upon which a jury could reasonably return a verdict that usage of the accused products by customers outside of the United States infringes or substantially infringes within the United States[;]” and, (2) that “there is no evidence upon which a jury could reasonably return a

verdict that products purchased by customers outside the United States were made in the United States or distributed from the United States.” (ECF No. 1254, at 24.)

Leading up to the trial in this matter, the parties extensively briefed and presented argument regarding the issue of whether the jury could consider sales to customers located outside of the United States in calculating a damages award. (*See* ECF No. 383 (sealed), at 18–23; ECF No. 408-1 (sealed), at 31–42; ECF No. 444 (sealed), at 17–26; ECF No. 1283-6, at 5–16, 26–40, 43–51; June 4 Tr. 277:3–288:2, 336:15–350:13, 380:24–388:9.) This Court ultimately ruled upon the issue in its February 23, 2022 *Daubert* Opinion regarding Dr. Cole and Dr. Sullivan. (*See* ECF No. 737 (sealed), at 21–34.) Among other things, Columbia urged the Court to review the evidence looking toward *WesternGeco LLC v. ION Geophysical Corp.*, 138 S. Ct. 2129, 2137–38 (2018), while Norton urged the Court to review the issue under a case decided eleven years before *WesternGeco*, *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 453–56 (2007).

The Court adopts and incorporates its previous findings as to this issue. For instance, in its *Daubert* Opinion regarding Dr. Cole and Dr. Sullivan, this Court stated that “Columbia may recover worldwide revenues if it proves [that] the Accused Products were made, used, offered for sale, or sold in the United States.” (ECF No. 737, at 26 (alterations omitted).) Indeed, the Court explicitly found that “a jury could find that Norton’s software is ‘made’ domestically,” “a jury could find that Norton’s software is ‘used’ domestically,” “a jury could find that Norton’s software is ‘sold’ domestically,” and “a jury could find that Norton’s software is ‘offered for sale’ domestically.” (ECF No. 737, at 26–33 (alterations omitted).) The Court further found that “Columbia could recover worldwide revenues under [35 U.S.C.] § 271(b) and § 271(c).” (ECF No. 737, at 33–34 (alterations omitted).) This Court found that the issue of damages stemming

from sales to customers located outside of the United States was a factual question for the jury.

This Court then denied Norton's request for reconsideration of this issue. (ECF No. 945.)

Norton's "arguments and reasoning in its [Renewed Motion for Judgment as a Matter of Law] . . . present little more than a plea for the [C]ourt to reconsider [its] prior ruling, a step which is neither warranted nor necessary to prevent a miscarriage of justice." *SAS Inst. v. World Programming Ltd.*, Case No. 5:10-25-FL, 2016 WL 3435196, at *11 (E.D.N.C. June 17, 2016). At trial, the parties presented the issue to the jury, and the jury determined the facts in favor of Columbia. The Court will not sanction Norton's attempts to relitigate this issue, nor to revisit its objection to any jury instruction involving overseas sales – and other damages. Nothing in Norton's Renewed Judgment as a Matter of Law convinces this Court to change its prior rulings.

Further, the jury's verdict as to damages for sales to customers outside of the United States was supported by sufficient evidence. To begin, as to the '322 Patent, the jury heard ample testimony, largely from Norton employees, that Norton designs, develops, and runs the infringing software within the United States, (*see, e.g.*, ECF No. 1283-7, at 17; ECF No. 1283-8, at 7, 13), that Norton creates master copies, so-called "golden discs," of the infringing software within the United States, (*see, e.g.*, ECF No. 1283-7, at 6, 17; ECF No. 1283-8, at 5, 7, 9–10), and that Norton retains the master "golden discs" in the United States and then distributes copies of the software from servers within the United States, (*see, e.g.*, ECF No. 1283-7, at 7–11; ECF No. 1283-8, at 9–12; ECF No. 1216, at 59–60).³¹ In addition, as to the '115 Patent, sufficient

³¹ In its Motion for Judgment, Norton also argues for the first time that the master copies are non-infringing because Norton created the original master copies before the patents issued. (ECF No. 1254, at 26.) The Court will not entertain new legal arguments at this late, post-trial stage. *See* Fed. R. Civ. P. 37(c)(1). Moreover, Columbia's assertion that Dr. Sullivan adopted this proposition reads his testimony too broadly.

evidence at trial indicated that Norton directly infringed the '115 Patent through joint infringement,⁴⁴ (*see, e.g.*, ECF No. 1213, at 148–50; Apr. 18 Trial Tr. 1254:5–1256:10), and that this joint infringement occurred domestically, (*see, e.g.*, ECF No. 1220, at 15; Apr. 27 Trial Tr. 2818:2–23; ECF No. 1283-7, at 8, 17; ECF No. 1283-8, at 7, 13, ECF No. 1283-10, at 4–5). Even without considering joint infringement, evidence offered at trial suggested that Norton infringed the '115 Patent domestically. (*See, e.g.*, ECF No. 1216, at 52; ECF No. 1283-7, at 17; ECF No. 1283-8, at 7, 13.)

Although some evidence presented at trial may have contradicted the jury's findings pertaining to infringement and damages outside of the United States, Dr. Bailey testified that the “master version of Norton's software that contains the infringing functionality, SONAR/BASH,” is “kept on servers in the United States.” (ECF No. 1213, at 118-19; Apr. 18 Trial Tr. 1224:25–1225:3.) He further acknowledged that a “customer in Engl[and] who's downloaded the software and is using it to protect her computer, the steps of the claims, the method claims from the '115 and '322 Patents, would be performed all in England.” (ECF No. 1213, at 208; Tr.

⁴⁴ Indeed, in its Motion for Judgment, Norton does not contest the jury's finding of joint infringement, and the Federal Circuit has indicated that joint infringement can be legally equivalent to direct infringement. *See Diem LLC v. BigCommerce, Inc.*, Case No. 18-cv-05978-SI, 2019 WL 251487, at *3 (N.D. Cal. Jan. 17, 2019) (quoting *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020, 1022–23 (Fed. Cir. 2015) (en banc)) (“Direct infringement under § 271(a) occurs where all steps of a claimed method are performed by or attributable to a single entity,” but “[l]iability under § 271(a) can also be found when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.”); *see also Sapphire Crossing, LLC v. Sansan Corp.*, Case No. 20-1136-MN-CJB, 2021 WL 1299506, at *3 (D. Del. Apr. 7, 2021) (stating that “joint infringement” is “direct infringement that occurred by way of the acts of more than one person or entity”); *Sentius Int'l, LLC v. Apple Inc.*, Case No. 4:20-cv-00477-YGR, 2020 WL 2850286, at *5 n.5 (N.D. Cal. June 2, 2020) (quoting *Akamai Techs.*, 797 F.3d at 1022) (“Joint infringement is a variation of direct infringement where ‘all steps of a claimed method are . . . attributable to a single entity.’”).

1314:1–8.) But that stemmed from the master copy retained in California at all times. Dr. Sullivan, Columbia’s expert on economics and damages, provided sufficient evidence to support damages from sales outside the United States.

Dr. Sullivan testified that the “design and development of the masters occurred in . . . the United States,” “the Norton product line was designed and developed in the United States,” “the SONAR content and the trees, the decision trees for SONAR, were created and developed within the United States,” and “the build of the BASH component . . . occurred in the United States.” (ECF No. 1216, at 55–56; Tr. 1723:18–1724:9.) Master discs are created in the United States. (ECF No. 1216; Tr. 1735 at 18-25.) The most common way for Norton to distribute these products worldwide is through a “content delivery network,” which “take[s] a product that is here in the United States[,] place[s] [it] on a server in the United States and then set up on servers both throughout the U.S. as well as worldwide, . . . to help optimize the delivery of that software and make it most efficient for customers who are downloading that software.” (ECF No. 1216, at 59; Tr. 1727:11–18.)

The jury chose to disregard any suggestion that Norton’s actions negated the basis for Columbia to seek recompense for foreign sales. Especially when viewing the evidence in the light most favorable to Columbia, sufficient evidence supported the jury’s verdict. *cf. DNT, LLC v. Sprint Spectrum, LP*, 750 F. Supp. 2d 616, 628 (E.D. Va. 2010) (citation omitted) (stating that a motion for judgment as a matter of law is “not an occasion for the [c]ourt to usurp the jury’s authority to weigh the evidence and gauge the credibility of witnesses”); *Reynolds Consumer Prods., Inc. v. Handi-Foil Corp.*, Case No. 1:13–CV–214, 2014 WL 3615853, at *2 (E.D. Va. July 18, 2014) (quoting *Konkel v. Bob Evans Farms Inc.*, 165 F.3d 275, 279 (4th Cir. 1999)) (explaining that a renewed motion for judgment as a matter of law “should be granted [only] if a

district court determines, without weighing the evidence or considering the credibility of the witnesses, that substantial evidence does not support the jury's findings").

Accordingly, the Court will deny Norton's Motion for Judgment as it relates to the jury's findings regarding infringement and damages stemming from sales outside of the United States.

V. Conclusion

For the foregoing reasons, the Court will deny as moot Norton's Rule 50(a) Motion (ECF No. 1191) and deny Norton's Renewed Motion for Judgment as a Matter of Law (ECF No. 1253).

It is SO ORDERED.

Date: September 30, 2023
Richmond, Virginia



M. Hannah Lauck
United States District Judge